



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

11A

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,366	03/30/2004	James William Bray	135481-1/YOD GERD:0089	4690
7590 Patrick S. Yoder FLETCHER YODER P.O. Box 692289 Houston, TX 77269-2289			EXAMINER LAM, THANH	
			ART UNIT 2834	PAPER NUMBER

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/02/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/813,366

Applicant(s)

BRAY ET AL.

Examiner

Thanh Lam

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19,42-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19,42-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-19 and 42-46 are rejected under 35 U.S.C. 102(b) as being anticipated by Dombrovski et al. (US 6313556)

Regarding claim 1, Dombrovski et al. disclose a rotating electrical machine, comprising: a superconductive rotor coil (52); and a rotatable shaft (12) comprising: an axial passageway (44) extending through the rotatable shaft; and a first passageway (46) extending through a side wall of the rotatable shaft to the axial passageway, wherein the axial passageway and the first passageway are operable to convey a cryogenic fluid to the superconductive rotor coil; wherein the first passageway is oriented transverse (46 transversed with 44 within the shaft) to the axial passageway at least through the side wall (hole adjacent to shaft extension 34 of figure 2).

Regarding claim 2, Dombrovski et al. disclose a second passageway extending through the side wall of the rotatable shaft to the axial passageway.

Regarding claim 3, Dombrovski et al. disclose a first axial tube and a second axial tube disposed telescopically within the axial passageway (see col. 5, lines 6-7).

Regarding claim 4, Dombrovski et al. disclose a first axial tube and a second axial tube disposed side-by-side within the axial passageway(see col. 5, lines 6-7).

Regarding claim 5, Dombrovski et al. disclose the first passageway is coupled to the first axial tube and the second passageway is coupled to the second axial tube.

Regarding claim 6, Dombrovski et al. disclose the first axial tube and the second axial tube are doubled walled.

Regarding claim 7, Dombrovski et al. disclose the first axial tube and the second axial tube each comprise a coating operable to reduce the emissivity of the first axial tube and the second axial tube to reduce radiative heat transfer to the cryogenic fluid.

Regarding claim 8, Dombrovski et al. disclose a cryogenic transfer coupling disposed radially around the rotatable shaft wherein the cryogenic transfer coupling is operable to direct cryogenic fluid to the first passageway and to receive cryogenic fluid from the second passageway.

Regarding claim 9, Dombrovski et al. disclose the rotating electrical machine is a generator comprising a stator.

Regarding claim 10, Dombrovski et al. disclose the first passageway and the second passageways extend radially though the rotatable shaft.

Regarding claim 11, Dombrovski et al. disclose system for cryogenically cooling a superconductive rotor coil, comprising: a transfer coupling (42) comprising a passageway (46) operable to be disposed radially around a rotatable shaft (12 or extension shaft 34) to couple cryogenic fluid (16) between a source of cryogenic fluid and a another passageway (44) extending through the rotatable shaft, wherein the

Art Unit: 2834

cryogenic fluid is coupled from the rotatable shaft to the superconductive rotor coil; wherein the passageway and the other passageway are generally transverse to one another.

Regarding claim 12, Dombrovski et al. disclose the transfer coupling comprises a rotatable member secured to the rotatable shaft and a stationary member disposed in sealing arrangement with the rotatable member.

Regarding claim 13, Dombrovski et al. disclose the stationary member is aligned to direct cryogenic fluid into a first passageway in the rotatable shaft and to receive cryogenic fluid from a second passageway in the rotatable shaft.

Regarding claim 14, Dombrovski et al. disclose comprising a first axial tube and a second axial tube disposed within the rotatable shaft wherein the first passageway directs cryogenic fluid into the first axial tube and the second passageway receives cryogenic fluid from the second axial tube.

Regarding claim 15, Dombrovski et al. disclose the first axial tube and the second axial tube are oriented in a telescopic orientation.

Regarding claim 16, Dombrovski et al. disclose the first axial tube and the second axial tube are oriented in a side-by-side orientation.

Regarding claim 17, Dombrovski et al. disclose the first axial tube and the second axial tube are double walled vacuum-sealed tubes.

Regarding claim 18, Dombrovski et al. disclose the first axial tube comprises a coating operable to reduce radiative heat transfer from the first axial tube to the cryogenic fluid.

Regarding claim 19, Dombrovski et al. disclose a first radial tube disposed in the first passageway to thermally insulate the cryogenic fluid flowing through the first passageway from the rotatable shaft.

Regarding claim 42, Dombrovski et al. disclose a rotating electrical machine, comprising: a rotor coil; and a rotatable shaft comprising: a lengthwise passageway (44) extending in a lengthwise direction through the rotatable shaft; and a crosswise passageway (46) extending in a crosswise direction through an outer perimeter of the rotatable shaft (34) to the lengthwise passageway, wherein the lengthwise and crosswise passageways are disposed in a coolant path extending to the rotor coil.

Regarding claim 43, Dombrovski et al. disclose comprising another crosswise passageway extending in another crosswise direction through the rotatable shaft to the lengthwise passageway.

Regarding claim 44, Dombrovski et al. disclose comprising a plurality of tubes disposed telescopically within the lengthwise passageway.

Regarding claim 45, Dombrovski et al. disclose wherein at least one of the plurality of tubes is coupled to the crosswise passageway.

Regarding claim 46, Dombrovski et al. disclose comprising a coolant transfer coupling disposed radially around the rotatable shaft, wherein the coolant transfer coupling is operable to exchange a coolant fluid with the crosswise passageway.

3. Claims 1,11,42 are rejected under 35 U.S.C. 102(b) as being anticipated by katateladze et al. (US 4236091).

katateladze et al. in figure 1 show every features of claimed invention.

4. Claims 1,11,42 are rejected under 35 U.S.C. 102(b) as being anticipated by steinmeyer (US 6536218).

katateladze et al. in figures 3 and 6 show every features of claimed invention.

5. Claims 1,11,42 are rejected under 35 U.S.C. 102(b) as being anticipated by Lambrecht et al. (US 4035678).

Lambrecht et al. in figure 1 show every features of claimed invention.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh Lam whose telephone number is (571) 272-2026. The examiner can normally be reached on tu-th 8-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren E. Schuberg can be reached on (571) 272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

Application/Control Number: 10/813,366

Page 7

Art Unit: 2834

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Thanh Lam', with a long horizontal stroke extending to the right.

Thanh Lam
Primary Examiner
Art Unit 2834
